Most Exciting Discovery
I have been working to identify new enzymes using computer tools. In doing so, we have discovered a new type of enzyme which may contribute to changing wood fibers into fuels and chemicals. Enzymes are a part of cells, and they help living things carry out chemical processes.

When did you know you wanted to be a scientist?
I was always interested in science. It just seemed like the natural path. My studies in microbiology were partly by chance. I was fortunate that early in my academic career, I was able to get involved in a microbiology laboratory and gain this experience.

Important Scientist Characteristics:
In addition to being naturally curious and being interested in the use of the ‘scientific method’ to solve problems and answer questions, there is a constant need for a scientist to think critically about their research hypothesis and results.

Example of a simple research question I have tried to answer:
How do the enzymes produced by microorganisms break apart the sugars of which wood fibers are made?

Technology or equipment used in research:
One of the methods my laboratory uses to understand bacterial enzymes is x-ray crystallography. X-ray crystallography holds the enzymes in a crystallized pattern. These crystals may diffract the x-ray. To diffract light is to cause bending of light around an object. If enzymes do diffract the x-rays, a three-dimensional model of the enzyme can be made and used to study it in close detail.